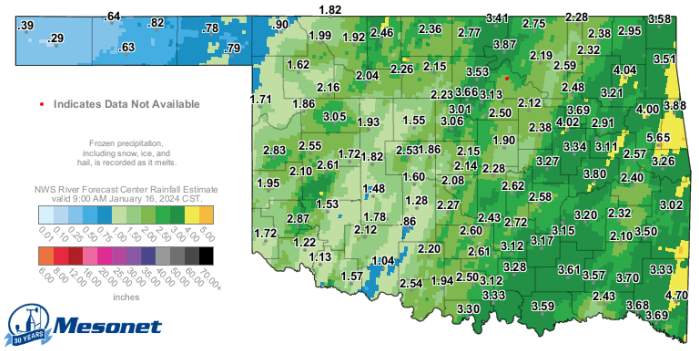
Oklahoma Water Resources Bulletin

Summary of Current Conditions

January 16, 2024

Precipitation

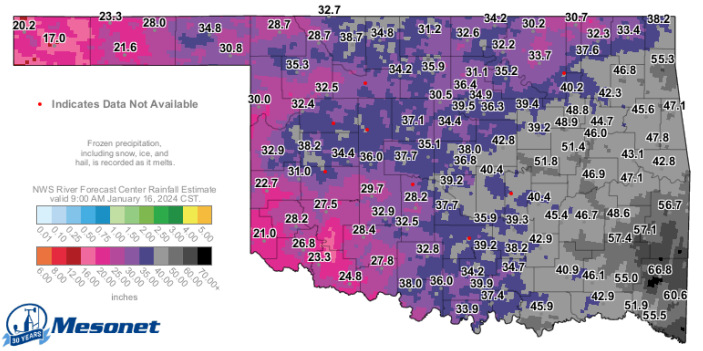
Last 30 Days: December 17, 2023 – January 15, 2024					Last 365 Days: January 16, 2023 – January 15, 2024			
Climate Division	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	Rank Since 1921	Total Rainfall (inches)	Departure From Normal (inches)	Percent of Normal	RANK SINCE 1921
PANHANDLE	0.77"	+0.11"	117%	22nd wettest	26.03"	+5.45"	126%	8th wettest
N. CENTRAL	2.35"	+1.34"	232%	10th wettest	33.51"	+2.09"	107%	28th wettest
NORTHEAST	2.96"	+1.00"	151%	17th wettest	38.76"	-3.91"	91%	48th driest
W. CENTRAL	2.29"	+1.33"	239%	8th wettest	33.58"	+5.18"	118%	14th wettest
CENTRAL	2.30"	+0.76"	149%	18th wettest	37.13"	-0.50"	99%	40th wettest
E. CENTRAL	3.46"	+0.83"	132%	18th wettest	46.10"	-0.04"	100%	40th wettest
SOUTHWEST	1.66"	+0.54"	148%	21st wettest	27.85"	-2.42"	92%	50th driest
S. CENTRAL	2.88"	+0.70"	132%	19th wettest	37.98"	-2.73"	93%	52nd wettest
SOUTHEAST	3.28"	+0.09"	103%	38th wettest	54.40"	+3.81"	108%	28th wettest
STATEWIDE	**2.42"**	**+0.74"**	**144%**	**16th wettest**	**37.01"**	**+0.54"**	**101%**	**37th wettest**



Mesonet

30-Day Rainfall Accumulation (inches)

10:25 AM January 16, 2024 CST



Mesonet

365-Day Rainfall Accumulation (inches)

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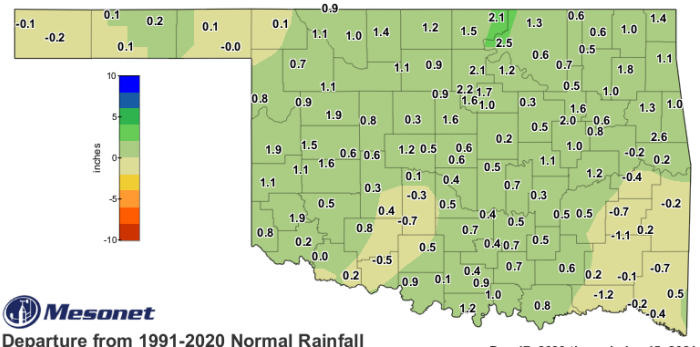
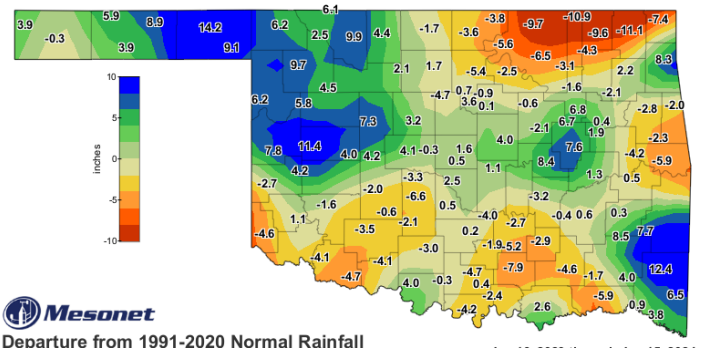


Mesonet

Departure from 1991-2020 Normal Rainfall

Last 30 Days

Dec 17, 2023 through Jan 15, 2024

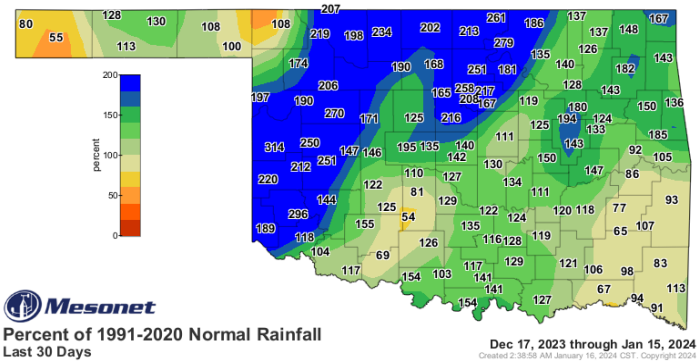


Mesonet

Departure from 1991-2020 Normal Rainfall

Last 365 Days

Jan 16, 2023 through Jan 15, 2024

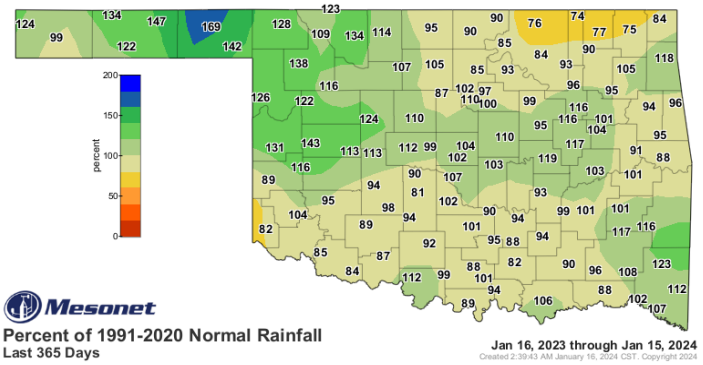


Mesonet

Percent of 1991-2020 Normal Rainfall

Last 30 Days

Dec 17, 2023 through Jan 15, 2024



Mesonet

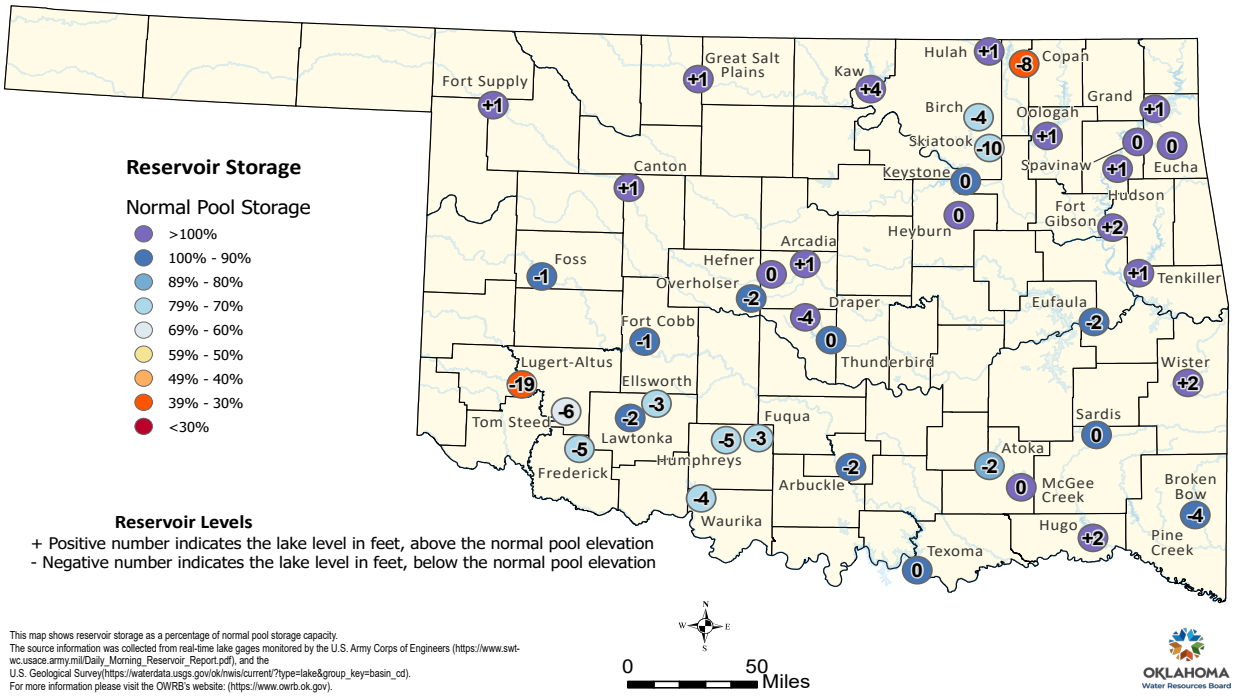
Percent of 1991-2020 Normal Rainfall

Last 365 Days

Jan 16, 2023 through Jan 15, 2024

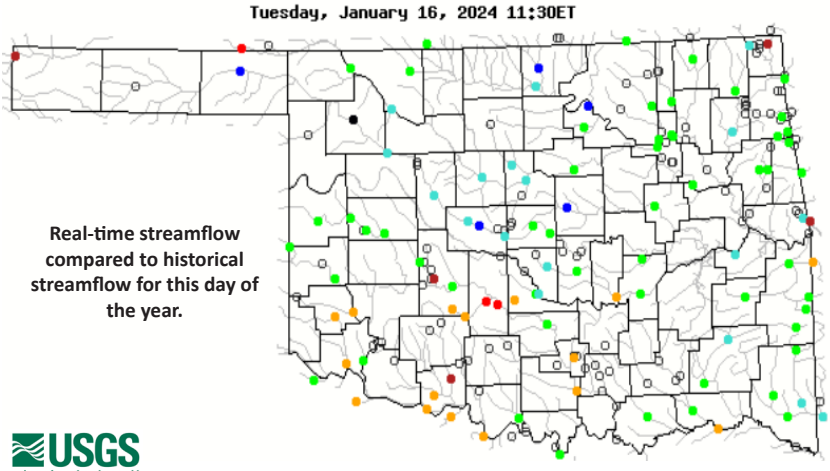
Reservoir Levels

Oklahoma Reservoir Levels and Storage as of 1/16/2024



This map shows reservoir storage as a percentage of normal pool storage capacity.
The source information was collected from real-time lake gages monitored by the U.S. Army Corps of Engineers (https://www.swt-wc.usace.army.mil/Daily_Morning_Reservoir_Report.pdf), and the U.S. Geological Survey(https://waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd).
For more information please visit the OWRB's website: (https://www.owrb.ok.gov).

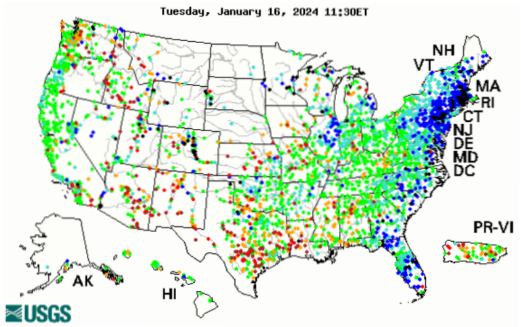
Streamflow



Real-time streamflow compared to historical streamflow for this day of the year.

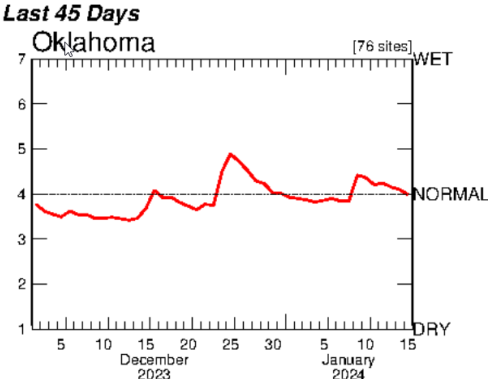
USGS science for a changing world

Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked



Average Streamflow Index

Last 45 Days



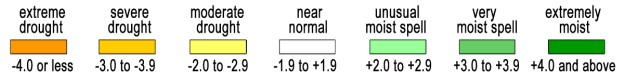
Visit waterwatch.usgs.gov for additional real-time streamflow information.

Visit the OWRB's Water Data and Analysis Portal for continuous and discrete water quality and quantity data for Oklahoma lakes, streams, and aquifers across the state.

Drought Conditions

Palmer Drought Severity Index (PDSI)

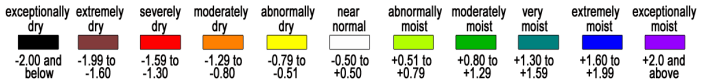
Climate Division	Status 1/13/24	Value 12/09	Value 1/13	Change in Value
NORTHWEST	Very Moist Spell	1.19	3.31	+2.12
NORTH CENTRAL	Very Moist Spell	2.36	3.6	+1.24
NORTHEAST	Near Normal	-1.03	0.58	+1.61
WEST CENTRAL	Very Moist Spell	1.21	3.17	+1.96
CENTRAL	Near Normal	0.18	1.52	+1.34
EAST CENTRAL	Near Normal	0	1.15	+1.15
SOUTHWEST	Near Normal	-0.33	1.22	+1.55
SOUTH CENTRAL	Near Normal	0.37	1.17	+0.8
SOUTHEAST	Near Normal	1.18	1.53	+0.35



The PDSI is based upon precipitation, temperature, and soil moisture, and is considered most effective for unirrigated cropland, spanning from -10 (dry) to +10 (wet). According to the latest PDSI, as of January 13, all climate regions are Near Normal or wetter.

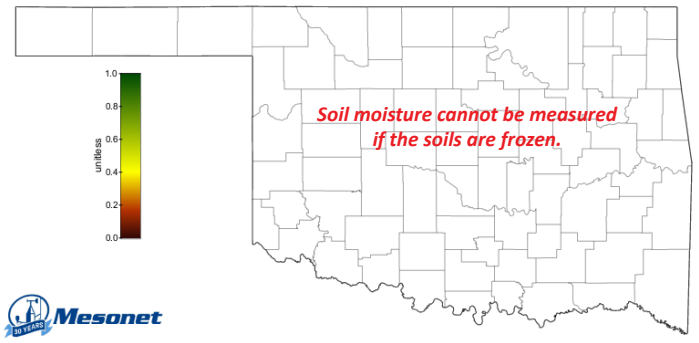
Standardized Precipitation Index (SPI)
Through December 2023

3-month	12-month	24-month
Abnormally Moist	Extremely Moist	Near Normal
Moderately Moist	Near Normal	Near Normal
Near Normal	Near Normal	Abnormally Dry
Moderately Moist	Moderately Moist	Near Normal
Near Normal	Near Normal	Near Normal
Near Normal	Near Normal	Near Normal
Abnormally Moist	Near Normal	Near Normal
Abnormally Moist	Near Normal	Near Normal
Near Normal	Abnormally Moist	Near Normal



The SPI provides a comparison of precipitation over several specified time periods with totals from the periods for all years in the historical record. Through December 2023, the Northeast region was abnormally dry for the 24-month period.

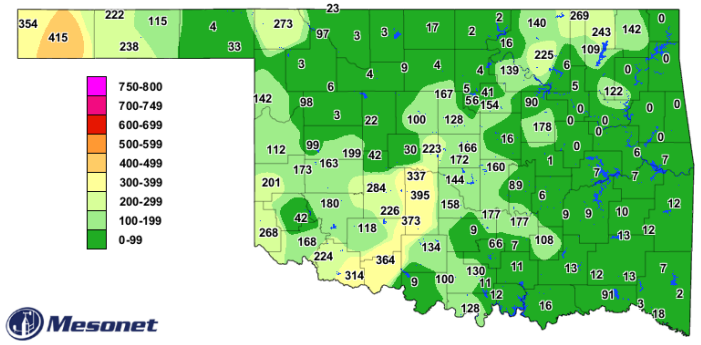
Soil Moisture



1-day Average 4-inch Bare Soil Fractional Water Index January 15, 2024

The 1-day Average 4-inch Bare Soil Fractional Water Index map displays the 24-hour-averaged soil moisture at 4 inches under bare soil for the previous day. Fractional water index ranges from 0 (as dry as the sensor can read) to 1.0 (as wet as the sensor can read).

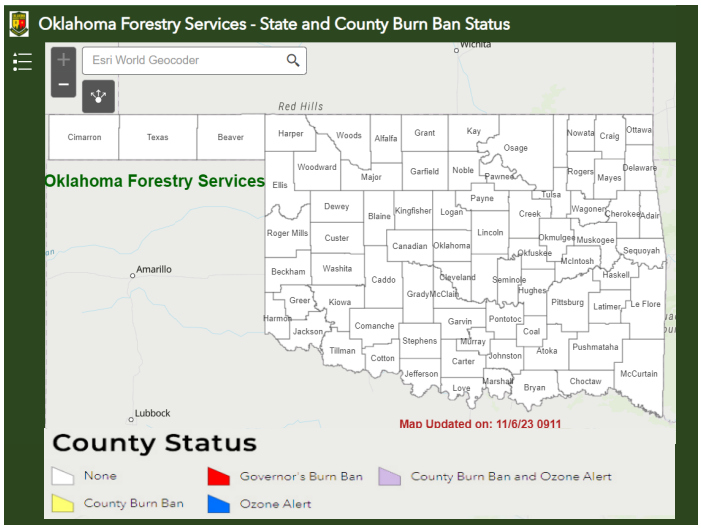
Keetch-Byram Drought Index



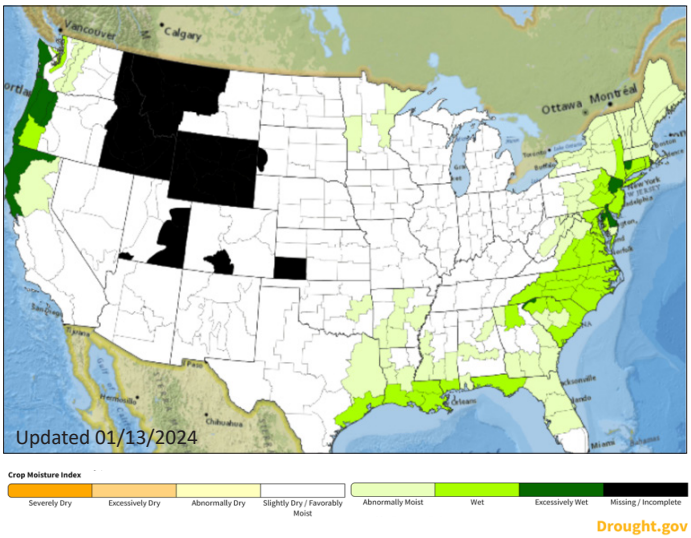
Keetch-Byram Drought Index 11:00 AM January 16, 2024 CST

The Keetch-Byram Drought Index measures the state of near-surface soil moisture (within the uppermost eight inches of soil) as well as the amount of fuel available for fires. KBDI values > 600 are often associated with severe drought and increased wildfire occurrence.

State & County Burn Ban Status



Crop Moisture Index



Oklahoma Drought Monitor

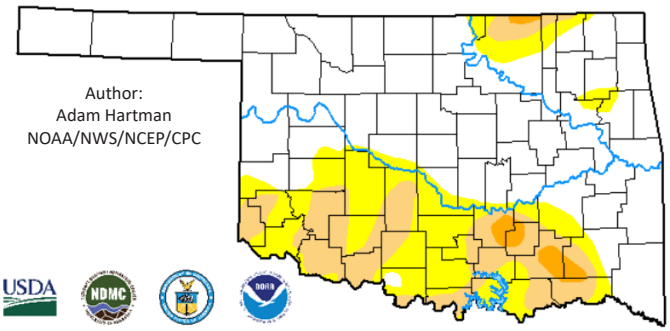
74
counties with USDA Drought Disaster Designations (primary)
— 0 counties since last week

~297,300
Oklahoma residents in areas of drought, according to the Drought Monitor
↓ 41.7% since last week

22nd
wettest December on record (since 1895)
2.9 in. total precipitation
↑ 1.18 in. from normal

44th
wettest January—December on record (since 1895)
36.62 in. total precipitation
↑ 2.78 in. from normal

Statistics valid as of 1/9/24



Author:
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NOAA/NWS/NCEP/CPC

January 9, 2024
(Released Jan. 11, 2024)
Valid 7 a.m. EDT

Intensity:
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

droughtmonitor.unl.edu

D0 - Abnormally Dry
- Crops are stressed (wheat, canola, alfalfa, pecans); winter wheat germination is delayed
- Stock pond levels decline

D1 - Moderate Drought
- Summer crop and forage yields are reduced
- Wildfire risk increases
- Lake recreation activities are affected; deer reproduction is poor

D2 - Severe Drought
- Dryland crops are severely reduced; pasture growth is stunted
- Cattle are stressed
- Burn bans begin

D3 - Extreme Drought
- Grasses are dormant, and hay is nonexistent; planting is delayed; fields are spotty; emergency CRP grazing is authorized
- Cattle have little water and feed
- Wildfires are increasing in number and severity; air quality is poor, with dust storms and smoke

D4 - Exceptional Drought
- Ground is cracking; farmers are bailing failed crops or abandoning fields; pastures are bare; land is abandoned
- Cost of hay and water is high and supplies are scarce; producers are liquidating herds
- Burn restrictions increase; fire season is long

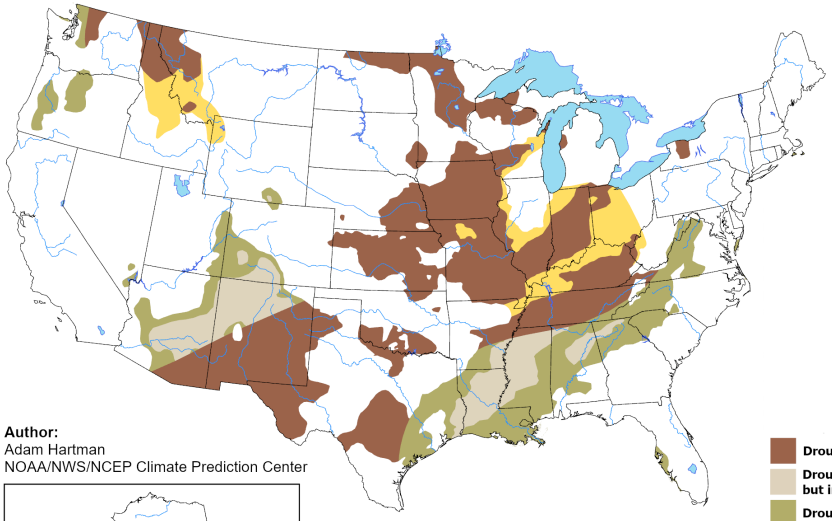
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-01-09	65.81	34.19	15.01	1.67	0.00	0.00	51
Last Week to Current	2024-01-02	55.32	44.68	21.64	3.08	0.00	0.00	69
3 Months Ago to Current	2023-10-10	36.68	63.32	43.11	29.44	8.48	0.00	144
Start of Calendar Year to Current	2023-12-26	53.62	46.38	21.64	3.08	0.00	0.00	71
Start of Water Year to Current	2023-09-26	34.29	65.71	46.76	30.93	12.91	0.00	156
One Year Ago to Current	2023-01-10	2.54	97.46	89.12	81.01	57.21	11.77	337

Drought Probability

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for December 21, 2023 - March 31, 2024
Released December 21, 2023



Author:
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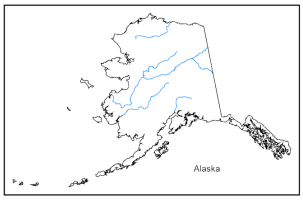
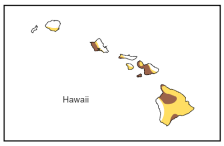
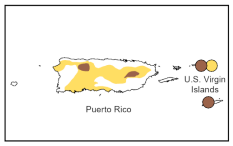
NOAA/NWS/NCEP Climate Prediction Center





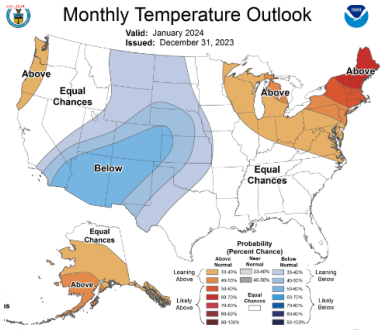


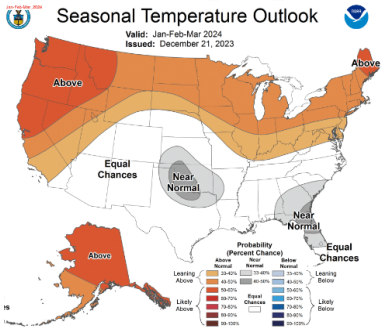
- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought

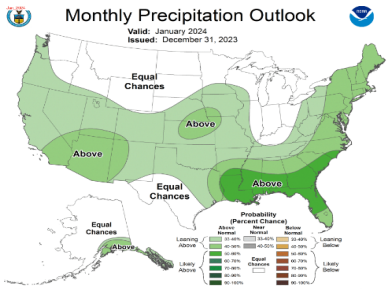
https://go.usa.gov/3eZ73

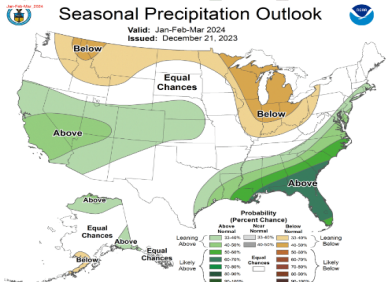
The map depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4). Tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. Green areas imply drought removal by the end of the period.

Monthly/Seasonal Outlook









NOAA/ National Weather Service
National Centers for Environmental Prediction
Climate Prediction Center